

## CLAIMS:

1. In an Access Point controlled wireless network, wherein one channel communication is ruled by an identifier associated with the Access Point, a method for direct communication between a first station and a second station, comprising the steps of:
  - 5 - generating a second identifier by said first station, different from the identifier associated with the Access Point, and optionally choosing a second channel;
  - sending, by said first station, an invitation message for direct communication carrying said second identifier and optionally said second channel to said second station;
  - 10 - sending, by said second station, a response message acknowledging the invitation message;
  - setting up direct communication between said first station and said second station using said second identifier and optionally said second channel.
- 15 2. The method according to claim 1, wherein said invitation message and said response message are sent via the Access Point using the identifier associated therewith.
3. The method according to claim 1, wherein said invitation message and  
20 said response message are exchanged directly between said first station and said second station using an identifier different from the identifier associated with the Access Point.
4. The method according to claim 1, wherein said response message contains information that said second identifier is confirmed or that said second  
25 identifier is rejected and a third identifier is proposed, wherein said third identifier is different from the identifier associated with the Access Point.

5. The method according to claim 4, wherein said response message according to claim 4 contains information that said second channel is confirmed or that said second channel is rejected and the channel which is associated with the Access  
5 Point or a third channel is proposed.
6. The method according to claim 1, wherein said second identifier is a dedicated identifier for direct communication between stations.
- 10 7. The method according to claim 1, wherein carrier sensing is applied to avoid collision on said channel.
8. Use of the method according any of claims 1 to 7 in the communication protocol of the IEEE 802.11 standard.
- 15 9. An access point controlled wireless network, wherein one channel communication is ruled by an identifier associated with the access point, said network comprising at least a first station and a second station capable to established direct communication, wherein: said first station generates a second identifier, different from  
20 the identifier associated with the access point, and optionally chooses a second channel and sends an invitation message for direct communication carrying said second identifier and optionally said second channel to said second station; said second station sends a respond message acknowledging the invitation message; and said first station sets up direct communication with said second station using said second identifier and  
25 optionally said second channel.